Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80

Product:	3026220 - PVC Bend 45° GY 110 S/SP
Unit:	1 Piece
Manufacturer:	Wavin - FR - Varennes

The Wavin range of PVC pipes and fittings to be glued covers all the usual diameters and allows you to create networks that are 100% compatible, homogeneous and meet the requirements of the French market.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	24-11-2022
End of validity:	24-11-2027
Verifier:	Martijn van Hövell - SGS Search

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - FR - Varennes (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.47E-1	2.05E-2	2.47E-2	5.92E-1	7.80E-3	3.27E-1	2.42E-3	-3.11E-1	6.18E-1
GWP-f	kg CO2 eq	6.31E-1	2.05E-2	1.96E-2	6.71E-1	7.79E-3	2.15E-1	2.42E-3	-3.57E-1	5.39E-1
GWP-b	kg CO2 eq	-8.50E-2	1.24E-5	5.04E-3	-8.00E-2	4.73E-6	1.12E-1	3.03E-6	4.61E-2	7.86E-2
GWP-luluc	kg CO2 eq	8.51E-4	7.25E-6	1.65E-5	8.75E-4	2.76E-6	9.66E-5	6.51E-8	-5.89E-4	3.85E-4
ODP	kg CFC11 eq	3.25E-7	4.72E-9	2.54E-9	3.32E-7	1.80E-9	2.67E-8	9.14E-11	-1.67E-7	1.94E-7
AP	mol H+ eq	3.11E-3	1.17E-4	1.02E-4	3.33E-3	4.44E-5	4.64E-4	2.22E-6	-1.53E-3	2.31E-3
EP-fw	kg P eq	3.14E-5	1.69E-7	4.64E-7	3.20E-5	6.41E-8	3.23E-6	2.92E-9	-1.67E-5	1.86E-5
EP-m	kg N eq	5.82E-4	4.18E-5	3.05E-5	6.54E-4	1.59E-5	1.16E-4	1.35E-6	-2.85E-4	5.02E-4
EP-T	mol N eq	6.30E-3	4.60E-4	3.57E-4	7.12E-3	1.75E-4	1.27E-3	8.85E-6	-3.10E-3	5.47E-3
POCP	kg NMVOC eq	1.97E-3	1.32E-4	9.04E-5	2.19E-3	5.00E-5	3.81E-4	3.04E-6	-1.02E-3	1.61E-3
ADP-mm	kg Sb eq	7.86E-4	5.30E-7	3.32E-7	7.87E-4	2.02E-7	1.84E-6	2.24E-9	-7.14E-6	7.82E-4
ADP-f	MJ	1.53E+1	3.15E-1	2.75E-1	1.59E+1	1.20E-1	1.25E+0	6.67E-3	-8.42E+0	8.85E+0
WDP	m3 depriv.	9.88E-1	9.65E-4	5.69E-1	1.56E+0	3.67E-4	4.81E-2	4.76E-5	-5.39E-1	1.07E+0
PM	disease inc.	2.32E-8	1.85E-9	1.52E-9	2.66E-8	7.03E-10	5.82E-9	4.59E-11	-1.39E-8	1.92E-8
IR	kBq U-235 eq	3.62E-2	1.37E-3	8.05E-4	3.84E-2	5.23E-4	4.44E-3	3.05E-5	-1.86E-2	2.48E-2
ETP-fw	CTUe	2.28E+1	2.55E-1	2.38E-1	2.33E+1	9.71E-2	9.36E+0	1.03E-1	-8.50E+0	2.43E+1
HTP-c	CTUh	5.89E-10	9.09E-12	1.93E-11	6.17E-10	3.46E-12	1.43E-10	1.86E-13	-2.31E-10	5.33E-10
HTP-nc	CTUh	1.81E-8	3.04E-10	4.86E-10	1.89E-8	1.16E-10	3.31E-9	1.98E-11	-7.14E-9	1.52E-8
SQP	Pt	1.16E+1	2.69E-1	1.02E+0	1.29E+1	1.02E-1	7.70E-1	1.70E-2	-1.59E+1	-2.11E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.26E+0	4.51E-3	2.60E-1	2.52E+0	1.72E-3	8.87E-2	2.44E-4	-2.87E+0	-2.59E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.26E+0	4.51E-3	2.60E-1	2.52E+0	1.72E-3	8.87E-2	2.44E-4	-2.87E+0	-2.59E-1
PENRE	MJ	1.64E+1	3.34E-1	2.98E-1	1.70E+1	1.27E-1	1.33E+0	7.08E-3	-9.06E+0	9.45E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.64E+1	3.34E-1	2.98E-1	1.70E+1	1.27E-1	1.33E+0	7.08E-3	-9.06E+0	9.45E+0
PET	MJ	1.87E+1	3.38E-1	5.58E-1	1.96E+1	1.29E-1	1.42E+0	7.32E-3	-1.19E+1	9.19E+0
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	1.15E-2	3.56E-5	1.33E-2	2.49E-2	1.35E-5	1.32E-3	8.15E-6	-6.77E-3	1.95E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.11E-4	8.04E-7	4.17E-7	1.12E-4	3.06E-7	2.07E-6	8.15E-9	-7.54E-6	1.07E-4
NHWD	kg	7.25E-2	1.95E-2	3.05E-3	9.51E-2	7.41E-3	4.58E-2	2.96E-2	-3.21E-2	1.46E-1
RWD	kg	3.20E-5	2.14E-6	8.44E-7	3.50E-5	8.13E-7	4.82E-6	4.34E-8	-1.68E-5	2.39E-5
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0

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